iGrafx

IDEF0® 2009

User Guide

iGrafx IDEF0® 2009 User Guide

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AIAG Tables 2, 3, and 4 from Chao, L.P., and Ishii, K., (2004), "Challenges and Methods in the Quantification of Design Errors and Solution Elements," Proceedings of the ASME International Mechanical Engineering Congress and Exposition, November 2004, Anaheim, CA. IMECE2004-59190, © 2004 ASME, used with permission by ASME.

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Table of Contents

Introduction 3

The IDEF0 Modeling Language 3
- The IDEF0 Notation 4
- IDEF0 Models 5

IDEF0 Diagrams 5
- Top-Level Context Diagram 5
- Child Diagram 7
- Parent Diagram 8
- Node Tree Diagram 8
- Text Diagram 8
- Glossary 8
- For Exposition Only Diagram 8

Creating an iGrafx IDEF0 Model 9

Start IDEF0 9
Define the Model 10
Add Diagrams to Your Model 11
- Add a Child Diagram 11
- Add a FEO Diagram 13
- Add a Text Diagram 14

Editing an iGrafx IDEF0 Model 15

Change Properties 15
- Change ICOM Labels 16

Work with Model Templates 16
- Edit a Model Template 16
- Create a Model Template 17

Customize Text and the Glossary 20
- Validate a Model 25
- Print IDEF0 Models 26

Using iGrafx IDEF0 Menus and Tools 29

Menus 29
- Diagram Context Menu 30
- Shape Context Menu 31

iGrafx IDEF0 Tools 31
The IDEF0 Model Setup Wizard 32
The IDEF Explorer 33
The IDEF Rules Validator 35
The IDEF0 Toolbar 36
IDEF0 Model Templates 37

Introduction 1

iGrafx IDEF0® is a custom add-on to iGrafx® that lets you build business process models based on the Integration Definition language 0 (IDEF0).

This language is defined by the Integration Definition for Function Modeling (IDEF0) Standard issued by the Federal Information Processing Standards Publications (FIPS PUBS) on December 21, 1993.

System requirements are published in the release notes and on the iGrafx IDEF0 **product page** under FAQs.

iGrafx IDEF0 Features

iGrafx IDEF0 gives you the following capabilities:

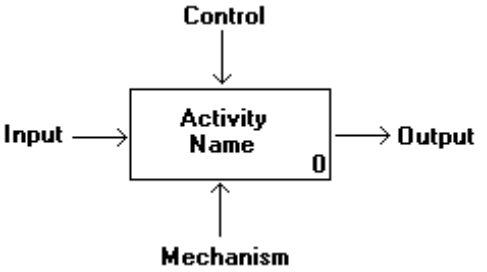
- **IDEF0 Model Setup Wizard**- The Model Wizard prompts you for model and diagram properties when adding a new model to a document.
- **IDEF Rules Enforcement**- IDEF0 uses correct-by-design and rules checking technology to insure the accuracy and consistency of your model.
- **IDEF Explorer**- The Explorer lets you navigate the components of a model.
- **Associated Components**- iGrafx IDEF0 lets you add components to models such as FEO diagrams, text diagrams, and glossaries.
- **IDEF0 Model Templates**- You can use model templates to help build models.

The IDEF0 Modeling Language

The IDEF0 modeling language is a graphics and text based notation used to model a system or process. An IDEF0 model is composed of a hierarchical series of diagrams that gradually display increasing levels of detail within the context of a process.

The IDEF0 Notation

The IDEF0 notation consists of boxes and arrows. Boxes represent the activities of a process while arrows represent data or objects related to each activity.



IDEF0 Activities

You give each activity a name, usually a verb-noun phrase such as plan project or conduct review. Activity boxes also include a number in the lower right-hand corner of the box. This number is a Detail Reference Expression (DRE) indicating the relative position of the activity within the diagram hierarchy.

Arrows enter and exit each activity box and represent Inputs, Control, Outputs, and Mechanisms (ICOM). Each arrow is labeled to describe the data or object it represents.

Arrow	Purpose
Inputs	Enter boxes from the left and represent data or objects transformed or consumed by the function to produce outputs.
Controls	Enter activities from the top and represent the conditions required for the function to produce correct outputs.
Outputs	Exit activities to the right and represent data or objects produced by the function.
Mechanisms	Enter activities from the bottom and identifies some of the means that support the execution of the function.

IDEF0 Models

IDEF0 models include three types of diagrams: graphic diagrams, text, and glossary. These diagrams cross-reference each other. The graphic diagram is the major component of an IDEF0 model containing boxes, arrows, box/arrow interconnections, and associated relationships.

The top-level diagram in the model provides the most general or abstract description of the subject represented by the model. This diagram is followed by a series of child diagrams providing more detail about the subject.

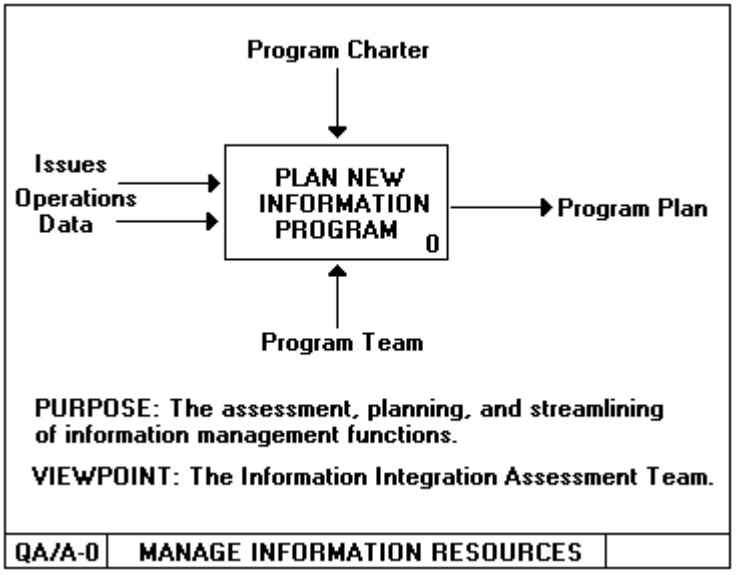
IDEF0 Diagrams

IDEF0 models include three types of diagrams: graphic diagrams, text, and glossary. Graphic diagrams include the top-level context diagram, parent/child diagrams, FEO diagrams, and the Node Tree diagram.

Top-Level Context Diagram

The top-level context diagram, also called the A-0 diagram (pronounced A minus zero), is a graphics diagram representing the entire system or process as a single box with bounding arrows. The A-0 diagram sets the model scope or boundary and orientation of the process.

The arrows on this diagram represent data or objects outside the process and are the complete set of external interfaces to the process.

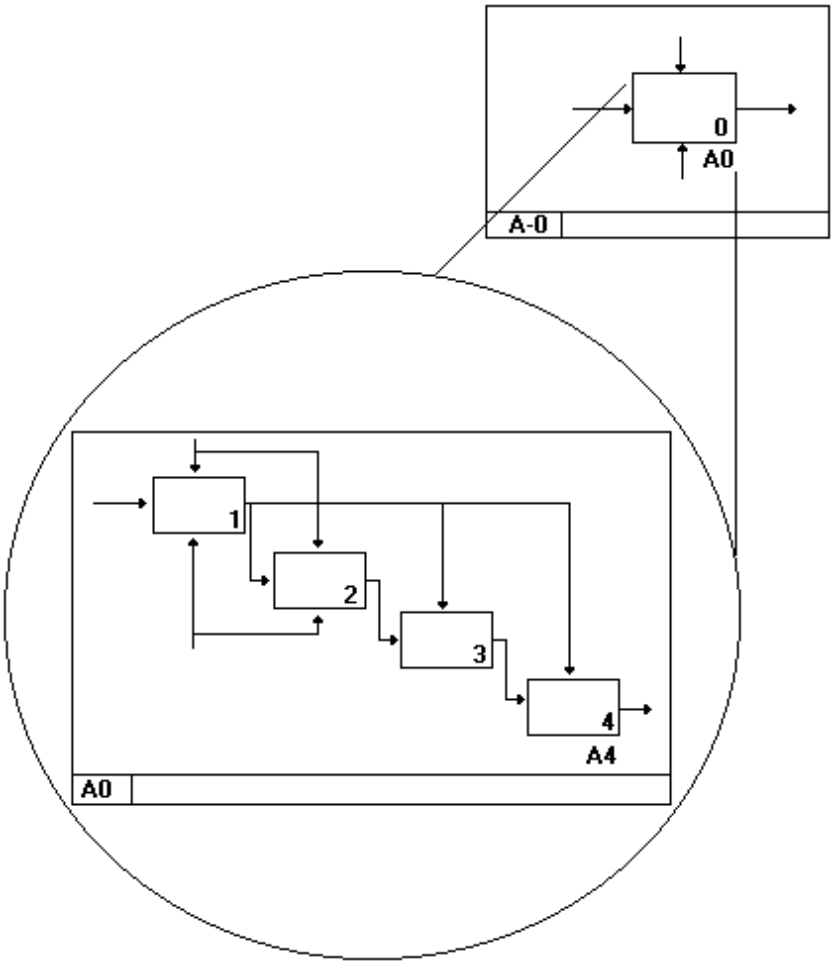


Example Top-Level Context Diagram

The A-0 diagram also includes a statement of the diagrams purpose and viewpoint. The statement of purpose expresses the reason why the model is created, and viewpoint describes the perspective from which you view the model.

Child Diagram

You can decompose the single function represented on the top-level context diagram into subfunctions by creating its child diagram. You can also decompose each of these child diagrams into subfunctions by creating lower-level child diagrams.



A Child Diagram

The child diagram that results from the decomposition of a function covers the same scope as the parent box it details. Thus, you can think of a child diagram as being inside its parent box.

Parent Diagram

Any diagram that has a child diagram is a parent diagram. Thus a diagram may be both a parent diagram (containing parent boxes) and a child diagram (detailing its own parent box). Likewise, a box may be both a parent box (detailed by a child diagram) and a child box (appearing on a child diagram).

The fact that a child box is detailed, and is therefore also a parent box, is indicated by the presence of a Detail Reference Expression (DRE). The DRE is a short code written below the lower right corner of the detailed (parent) box that points to its child diagram.

Node Tree Diagram

A node tree diagram is a graphics diagram showing the relationship between parent and child activities as a hierarchical tree. Each activity in your model is represented by a node on the tree.

Text Diagram

You can associate text with a diagram by creating a text diagram. Use text to highlight features, flows, and inter-box connections to clarify the intent of items and patterns.

Glossary

You can create a glossary for each graphic diagram in your mode. Each glossary defines text that appears on the diagram such as acronyms and key words and phrases used in conjunction with diagram graphics. The glossary defines words in the model that convey a common understanding to correctly interpret the model content.

For Exposition Only Diagram

For Exposition Only (FEO, pronounced fee-oh) diagrams are free-form diagrams (i.e., they need not comply with IDEF0 syntax rules) that provide an additional level of supplementary knowledge for specific areas of a model.

Creating an iGrafx IDEF0 Model 2

The first step in creating an iGrafx IDEF0 model is to start the IDEF0 application and use the Model Setup Wizard to define your model.

Start IDEF0

iGrafx IDEF0 treats an IDEF0 model as another iGrafx document type. Therefore, you can start IDEF0 from iGrafx using the *Welcome* dialog box, the *New* command, or the *From Template* command.

Start from iGrafx

On the iGrafx *File* menu, point to **New** and choose *IDEF0 (A-0)*. You can define the basic characteristics of a model from the Model Setup Wizard that appears.

Start from the Welcome dialog box

1 On the Windows *Start* menu, point to *iGrafx* and choose *Flowcharter* or *Process*.
2 In the **Welcome** dialog box, click **New Document**, and click **IDEF0 (A-0)**.

Start from a Template

1 On the *File* menu, point to *New* and choose *From Template*.
2 In the **New** dialog box, click the **IDEF0** tab.
3 Select a template from the template list, and click OK.

Define the Model

When you start a new IDEF0 document, the **Model Setup Wizard** opens automatically. The information you enter through the **Model Setup Wizard** defines the complete A-0 diagram for your model.

Define an A-0 Diagram

1. In the **Model Setup Wizard**, click **Next**.
2. In the **Setup Data** dialog box, type the model name, function, purpose, and viewpoint.
3. Click **Select Template**.
4. Use the **Template Browser** in the **Template Browser** dialog box to locate and select a template, and click **OK**.
5. Click **Next**.
6. In the **Input** dialog box, click **Add** and type the name of a model input in the **Input** box.

Repeat step 7 for each input to your model. Click Rename to change the name of any inputs. Click Delete to remove an input.

7. Click **Next**.
8. In the **Control** dialog box, type the name of a model control in the **Control** box.

Click Add to add additional controls. Click Rename to change the name of a control. Click Delete to delete a control.

9. Click **Next**.
10. Type the name of a model output in the **Output** box.
11. Click **Next**.

12 Click **Add**, and type the name of a model mechanism in the **Mechanism** box.

Repeat step 12 for each mechanism of your model. Click Rename to change the name of any mechanism. Click Delete to remove a mechanism.

13 Click **Next**.

14 Click **Finish**. The **IDEF0 Setup Wizard** closes and displays the A-0 diagram for your model.

Add Diagrams to Your Model

After you have defined a model, you are ready to add diagrams to it.

Add a Child Diagram

1 Right-click an activity in the diagram and choose *Add Detailed Diagram* on the context menu.

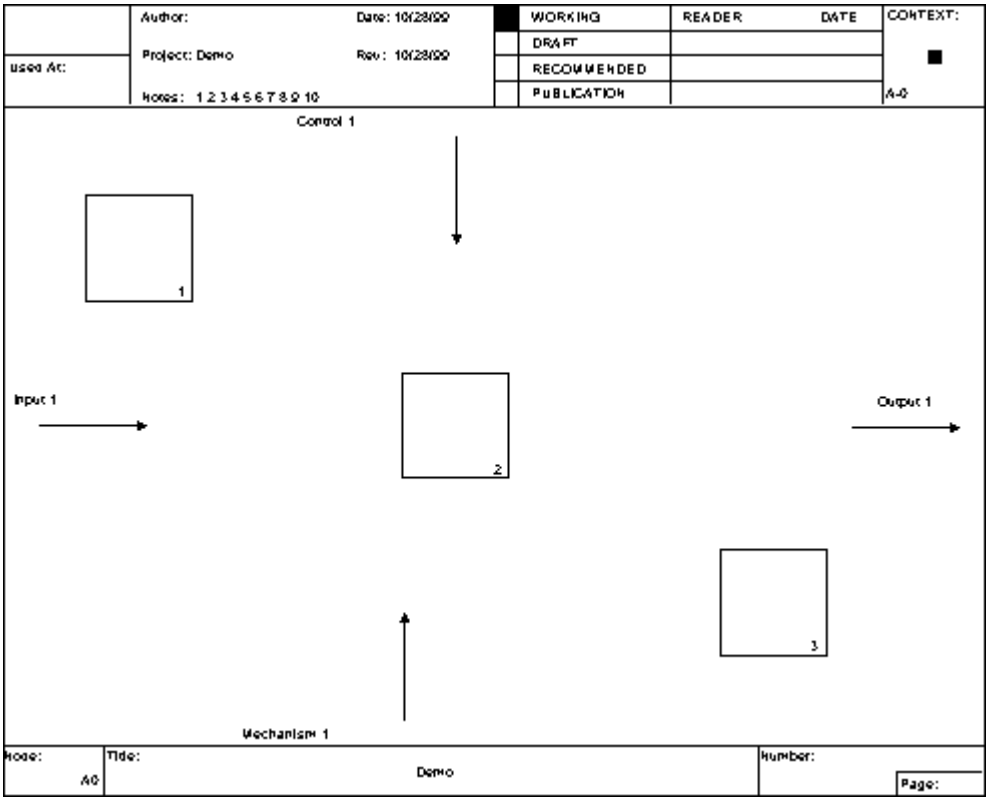
or

On the *IDEF0* menu, point to *Add* and choose *Add Detailed Diagram*.

2 Use the slide bar in the **Create Detailed Diagram** dialog box to specify the number of activities in the child diagram.

3 Click **OK**.

You can create a child diagram for any activity in a process model. When you create a new child diagram, a template for the diagram opens.



A Detailed Diagram

The new diagram contains the number of activities you specified. The activities are unnamed, so you need to provide a name for each activity.

Notice that all of the arrows from the parent diagram appear on the child diagram. However, they do not connect to any activity on the diagram. You must connect the arrows to the appropriate activities.

Also notice that there are no arrows between the activities of the child diagram. You must add arrows to connect the activities. Such arrows typically represent the flow of data or objects between the activities.

Name an Activity

1 Right-click an activity in the diagram and choose *Activity Properties* on the context menu.
or
On the *IDEF0* menu, point to *Current Model Properties* and choose *Activity Properties*.
2 In the **IDEF0 Options** dialog box, click the **Index** tab.
3 Type an activity name in the **Name** text box.
4 Click **OK**.

Connect Arrows to an Activity

1 Place the cursor over an arrow.
2 Click and hold the left mouse button.
3 Drag the arrow until it intersects an activity.
4 Release the mouse button.

Add a FEO Diagram

Right-click a diagram and choose *Add FEO Diagram* on the context menu.

or

In the **IDEF Explorer**, right-click a diagram icon and choose *Add FEO Diagram* on the context menu.

or

On the *IDEF0* menu, point to *Add* and choose *Add FEO Diagram*.

Add a Node Tree Diagram

In the **IDEF Explorer**, right-click a Model icon and choose *Add Node Tree* on the context menu.

or

On the *IDEF0* menu, point to *Add* and choose *Add Node Tree*.

Add a Text Diagram

You can create a Text diagram for any activity in your process model. When you add a text diagram, a text editor opens. The text editor is connected to the standard text formatting toolbar for customizing a text diagram. To add a text diagram:

Right-click a diagram and choose *Add Text Diagram* on the context menu.

or

In the **IDEF Explorer**, right-click a diagram icon and choose *Add Text Diagram* on the context menu.

or

On the *IDEF0* menu, point to *Add* and choose *Add Text Diagram*.

Add a Glossary

1. Highlight the text in a graphic diagram that you would like to add to the glossary.
2. On the *IDEF0* menu, point to *Glossary* and choose *Add To Glossary*.
3. In the **Add Term** dialog box, type a definition for the selected text in the **Definition** text box, and click **Add**. A **Glossary** icon appears in the **Explorer** window. Click this icon to view your new glossary entry.

Editing an iGrafx IDEF0 Model 3

In addition to adding diagrams to your model, you can change model, diagram, activity, and ICOM properties.

You can also add custom data fields and data groups, and customize text, glossaries, and arrows.

Change Properties

You can change the name of your model, redefine the activity prefix character, and change the DRE format. To change model properties:

1 Right-click a diagram and choose *Model Properties* on the context menu.

or

On the *IDEF0* menu, point to *Current Model Properties* and choose *Model Properties*.

or

On the **IDEF0** toolbar, click the **Model Properties** tool.

2 In the **Current IDEF0 Model Properties** dialog box, click the **Model** tab, and type any model property changes.

3 Click **OK**.

Change Diagram Properties

For each diagram in your model you can change the diagram name, specify the author and readers of the diagram, enter revision dates, and set the current status of the diagram. To change diagram properties:

1 Right-click a diagram and choose *Diagram Properties* on the context menu.

or

On the *IDEF0* menu, point to *Current Model Properties* and choose *Diagram Properties*.

or

On the **IDEF0** toolbar, click the **Model Properties** tool.

2 In the **Current IDEF0 Model Properties** dialog box, click the **Diagram** tab, and type any diagram property changes.

3 Click OK.

Change ICOM Labels

To rename an ICOM:

1 Double-click the line. The **Arrow Name** dialog box appears.

2 Use the **Arrow Name** dialog box to change the label.

3 Click **OK**.

Work with Model Templates

You can customize the template assigned to your model or you can create new templates.

Edit a Model Template

You can edit your model template to customize the look of your model. You can add a logo, move lines, change field labels, and delete fields from your template. Edits made to the template are propagated back to all existing diagrams in your model and are used in all new diagrams added to the model.

Note that you cannot resize the drawing area of your template. To resize the drawing area, you must create a new template.

Create a Model Template

You can also create your own templates by editing the template file directly. To create a new template, start with an existing template, make your customizations, and save the changes under a new file name. In your new template, you can customize the following elements:

Element	Description
Print Frame	Area that encompasses all printed items when you use the **Print** command. You can resize the print frame. Resizing the print frame may cause unpredictable results. A better approach is to resize the entire template.
Draw Frame	Area that contains the graphics for each diagram. You can resize the draw frame to create a larger or smaller drawing area.
Frame	Area that contains headers and lines. You can add, edit, move, delete, and change the fonts of headers, and add, move, delete, and change the line style of lines in the frame.
A-0	Area that contains items appearing only on the top level context diagram of your model. Typically, this includes the model purpose and viewpoint. You can add or remove items from this area. Items added to the area appear only in the A-0 diagram of your model.
Fields	Area that contains the text fields for your model. You can move or delete fields.

Customize the Fields of Your Template

1 On the *IDEF0* menu, choose *Edit Template*.

2 In the **Template Editor** dialog box, click the **Fields** tab at the bottom of the template diagram.

3 Click a field in the template.

Fields begin with <<. For example, the Author field is <<Author and appear as layer tabs at the bottom of the diagram.

4 Delete the selected field, drag it to a new location, or double-click the field to edit the field name.

5 Click **Apply**.

6 Click **Done**.

Customize the Frame of Your Template

1 On the *IDEF0* menu, choose *Edit Template*.

2 In the **Template Editor** dialog box, click the **Frame** tab at the bottom of the template diagram.

3 Click a frame item in the template.

4 Delete the selected frame item, drag it to a new location, or resize it.

5 Click **Apply**.

6 Click **Done**.

Create a New Template

1 On the *File* menu, choose *Open*.

Template files have the suffix .IGT. You can find templates supplied with IDEF0 at \Program Files\iGrafx\Pro\13.0\Template\1033\Idef0.

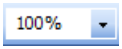
2 In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.

3 Double-click an IDEF0 template file.

4 On the *File* menu, choose *Save As* to save your template under a new template name.

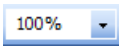
When prompted, click No to place the new template in the IDEF0 template directory. Click YES to place it in the default template directory.

Customize the Print Frame

1. On the *File* menu, choose *Open*.
2. In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.
3. Double-click an IDEF0 template file to open it.
4. Click the **<<PrintFrame** tab.
5. Click the print frame.
6. Click the **Zoom Control** 

tool on the **Standard** toolbar and set the view to a small enough percentage to see the outside of the print frame (typically the outer rectangle of the template).
7. Resize the print frame.
8. On the *File* menu, choose *Save As* to save your template under a new template name.

Customize the Draw Frame

1. On the *File* menu, choose *Open*.
2. In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.
3. Double-click an IDEF0 template file to open it.
4. Click the **<<DrawFrame** tab.
5. Click the draw frame (typically the inner rectangle of the template).
6. Click the**Zoom Control** 

tool on the **Standard** toolbar and set the view to a small enough percentage to see the outside of the draw frame.
7. Resize the draw frame.
8. On the *File* menu, choose *Save As* to save your template under a new template name.

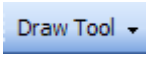
Customize the Frame

1. On the *File* menu, choose *Open*.
2. In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.
3. Double-click an IDEF0 template file to open it.
4. Click the **Frame** tab.
5. Select and customize lines or headers in the frame.
6. On the *File* menu, choose *Save As* to save your template under a new template name.

Customize the A-0 Diagram

1. On the *File* menu, choose *Open*.
2. In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.
3. Double-click an IDEF0 template file to open it.
4. Click the **A-0** tab.
5. Make desired changes to the A-0 area.
6. On the *File* menu, choose *Save As* to save your template under a new template name.

Create New Field Name Objects

1. Click the **Draw** 

tool on the **Draw** toolbar, and click **Rectangle**.
2. Draw a rectangle for the size of the field you want.
3. Right-click the rectangle and choose *Format* on the context menu.
4. In the **Format Graphic** dialog box, click the **None Fill Style** option, and click **OK**.
5. Double-click inside the rectangle to add text.
6. Type a field name. You can only type one of the valid field names provided by IDEF0 (see *IDEF0 Model Templates* on page 37).

Customize Fields

1. On the *File* menu, choose *Open*.
2. In the **Open** dialog box, click **iGrafx Template** in the **Files of type** list.
3. Double-click an IDEF0 template file to open it.
4. Click the **Fields** tab.
5. Click fields to edit, delete, move, or customize fonts.
6. On the *File* menu, choose *Save As* to save your template under a new template name.

Customize Text and the Glossary

You can add text to your diagram and customize your model's glossary by adding new terms, removing terms, modifying the definition of any term in the glossary, and

reanchoring terms. IDEF0 also lets you check the spelling of any term and definition in your glossary.

Add text to a diagram	1 In the **IDEF Explorer** window, double-click a text diagram icon. 2 In the text diagram, type any text necessary to describe the diagram.
View Text For a Diagram	In the **IDEF Explorer** window, double-click a text diagram icon.
Change Font Properties	1 On the *IDEF0* menu, point to *Current Model Properties* and choose *Font Properties*. 2 Click a text category from the **Category** list, and click **Choose Font**. 3 Make any font changes in the **Font** dialog box, and click **OK**. 4 Click **OK** to close the **Properties** dialog box.
Add Terms To a Glossary	1 Highlight the text in the graphic diagram that you want to add as a glossary term. 2 On the *IDEF0* menu, point to *Glossary* and choose *Add To Glossary*. 3 In the **New Glossary Entry** dialog box, type a definition for the selected text in the **Definition** text box. 4 Click **Add**.
Remove Terms From a Glossary Using the IDEF0 Menu	1 Highlight the text in the graphic diagram that you would like to remove from the glossary terms. 2 On the *IDEF0* menu, point to *Glossary* and choose *Delete Glossary Entry*.
Remove Terms From a Glossary Using the IDEF Explorer	1 In the **IDEF Explorer** window, double-click a glossary icon. 2 On the *IDEF0* menu, point to *Glossary* and choose *Modify Glossary*. 3 In the **Edit Glossary Definitions** dialog box, click a term from the **Term** list, and click **Delete**.

Modify Terms In a Glossary Using the IDEF0 Menu	1 Highlight the text in a graphic diagram that you would like to modify the glossary term for. 2 On the *IDEF0* menu, point to *Glossary* and choose *Modify Glossary Definition*. 3 In the **New Glossary Entry** dialog box, type a new definition for the term in the **Definition** text box. 4 Click **Add**.
Modify Terms In a Glossary Using the IDEF Explorer	1 In the **IDEF Explorer** window, double-click a glossary icon. 2 On the *IDEF0* menu, point to *Glossary* and choose *Modify Glossary*. 3 In the **Edit Glossary Definitions** dialog box, click a term in the **Term** list. 4 In the **Definition** text box, type a new definition for the term. (You can click Reset to set the term back to its original definition.) 5 Click **Apply**.
Check the Spelling of Terms in a Glossary	1 In the **IDEF Explorer** window, double-click a glossary icon. 2 On the *IDEF0* menu, point to *Glossary* and choose *Modify Glossary*. 3 In the **Edit Glossary Definitions** dialog box, click a term in the **Term** list. 4 Click **Check Spelling**. or Click **Check Spelling in all Definitions**.

Arrows

Arrows are used to represent the flow of data or objects in your model. You can add arrows to your model, remove arrows from your model, or tunnel the display of arrows.

Add Arrows

Typically, you add new arrows to connect activities of detailed diagrams. However, you can also add arrows to parent diagrams. Arrows added to parent diagrams appear in the corresponding detailed diagrams. To draw a new arrow to an activity:

1 On the **Toolbox** toolbar, click the **Connector Line** tool.
2 Locate the cursor in a blank area of the diagram.
3 Click and hold the left mouse button, and drag the arrow until it intersects an activity.
4 Release the mouse button.
5 In the **Arrow Name** dialog box, type a name in the **Enter the Arrow Name** text box.
6 Click **OK**.

If the activity has a detail diagram, the new arrow appears in the detail diagram.

Draw a New Arrow Between Activities

1 On the **Toolbox** toolbar, click the **Connector Line** tool.
2 Locate the cursor over an activity.
3 Click and hold the left mouse button, and drag the arrow until it intersects an activity.
4 Release the mouse button.
5 In the **Arrow Name** dialog box, type a name in the **Enter the Arrow Name** text box.
6 Click **OK**.

Delete Arrows

If you choose to delete an arrow that appears at more than one level of your model, you can choose to delete the arrow completely from your model or to tunnel the arrow (see Tunnel Arrows). To delete an arrow:

1 Click an arrow.

2 On the *Edit* menu, choose *Cut*.

or

On the **Standard** toolbar, click the **Cut** tool.

3 If the arrow appears at more than one level of your model, the **Resolve Arrow** dialog box opens.

4 Click **Delete**.

5 Click **OK**.

Tunnel Arrows

Tunneled arrows are arrows with special notations that indicate that the arrows do not appear at all levels of the model.

For example, on a parent diagram you can select an arrow and tunnel it at the point it is connected to an activity box. An arrow tunneled at the point it is connected to an activity box means the arrow is not necessary for understanding the detail diagram for activity. The tunneled arrow is deleted from the activities' detail diagram and all subsequent decompositions of the activity.

On a child diagram, you can draw an arrow and connect it to an activity box. The arrow is shown tunneled at the unconnected end. An arrow tunneled at the unconnected end means that the arrow is not necessary for understanding at the parent level and is not shown connected to the parent box.

On a parent diagram, you can select an arrow and detach it from an activity box or delete it. If the activity box is detailed, you are asked if you want to delete the arrow from the child diagram or tunnel the arrow in the child diagram at its unconnected end.

To tunnel an arrow, right-click an arrow and choose *Tunnel Arrow Tail* or *Tunnel Arrow Head* on the context menu.

or

Click an arrow, and click the **Tunnel Arrow Tail** or **Tunnel Arrow Head** tool on the **IDEF0** toolbar.

Validate a Model

You can use the IDEF Rules Validator (see *The IDEF Rules Validator* on page 35) to check the adherence of your model to the IDEF0 modeling rules.

Set the IDEF Rules Validator Properties

You can set the IDEF Rules Validator properties to check for any, all, or none of the modeling rules. To set IDEF Rules Validator properties:

1 On the *IDEF0* menu, point to *Current Model Properties* and choose *Rules Properties.* The **Current Model Properties** dialog box opens with the **Rules** tab selected.

2 In the **Design** area, select the appropriate check boxes for specific design rules.

or

Click **Select All** to select all design rules.

or

Click **Clear All** to turn off design rule validation.

3 In the **Validator** area, select the appropriate check boxes for specific validator rules.

or

Click **Select All** to select all validator rules.

or

Click **Clear All** to turn off validator rules.

4 Click **OK**.

View the IDEF Rules Validator

Rules violations appear automatically in the IDEF Rules Validator window when it is open at the bottom of your diagram. When you correct a rules violation, it disappears from the window. You may need to refresh the window periodically to insure that an accurate set of violations is displayed. To view the IDEF Rules Validator:

On the *IDEF0* menu, point to *IDEF Rules Options* and choose *IDEF Rules Validator.*

or

On the **IDEF0** toolbar, click the **Rules Validator** tool.

Refresh the IDEF Rules Validator Window

On the *IDEF0* menu, point to *IDEF Rules Options* and choose *Refresh Rules Validator*.

or

On the **IDEF0** toolbar, click the **Refresh Rules Validator** tool.

Print IDEF0 Models

You can print the active window of your model or the entire document. If the active window is more than one page long, you can print a range of pages.

When you print the entire document, all parts of your model are printed including non-IDEF0 components. Printing the entire document also updates the page numbering for IDEF0 components.

Print Your Model

1 On the *IDEF0* menu, choose *Print Model*.

or

Click an icon in the **IDEF Explorer**, and choose *Print Model* on the context menu. The **Print Model** dialog box opens.

2 In the **Choose Components to Print** area, select the appropriate check boxes for specific printing items.

or

Click **Select All** to select all components.

or

Click **Clear All** to deselect all components.

3 Click a printer in the **Printers** list.

4 Click **OK**.

Preview Your Model

You can preview the currently active window of your model prior to printing. Only the active window can be previewed.

1 On the *File* menu, choose *Print Preview*. A preview of the currently active window opens.

2 Click **Close** to dismiss the preview.

Print to a Different Page Size or Orientation

To change the page size or orientation of your model printout, you must edit your model template.

1 On he *IDEF0* menu, choose *Edit Templates*. The **Template Editor** dialog box opens.

2 On the *File* menu, choose *Page Setup*. The **Page Setup** dialog box opens.

3 Choose the desired orientation and page size and click **OK**.

4 In the **Template Editor** dialog box, click **Done**.

5 On the *IDEF0* menu, choose *Print Model*.

or

Click an icon in the **IDEF Explorer**, and choose *Print Model* on the context menu. The **Print Model** dialog box opens.

6 In the **Choose Components to Print**, area select the appropriate check boxes for printing items.

or

Click **Select All** to select all components.

or

Click **Clear All** to deselect all components.

7 Click a printer in the **Printers** list.

8 Click **OK**.

Using iGrafx IDEF0 Menus and Tools 4

iGrafx IDEF0 uses menus and toolbars to provide much of its functionality.

Menus

Several menus and their corresponding commands exist for creating, editing, and refreshing IDEF0 models.

IDEF0 Menu

The IDEF0 menu appears on the main menu bar when you create a new IDEF0 document. The IDEF0 menu commands display windows, refresh windows, go to diagrams, add detailed diagrams, and change model properties.

IDEF0 Menu Commands	Description
Add	Displays a submenu of commands for adding diagrams to your model (see Add Diagrams to Your Model). You can also add a table of contents, and a node tree to a model using the Add command.
Refresh	Displays a submenu of commands for refreshing the display of certain IDEF0 windows, diagrams, and page numbers.
Go To	Displays a submenu of commands for displaying different diagrams in your model.
Glossary	Displays a submenu of commands for creating and editing your glossary.

IDEF0 Menu Commands	Description
Model Properties	Displays a submenu of commands for customizing your model, diagram, activity, rule, and font properties (see Change Properties)
Edit Model Page Template	Opens the Template Editor.
Save Model as Webpage	Lets you save your model to a specified directory in HTML format.
Print Model	Lets you print your model.
IDEF Explorer Options	Displays a submenu of commands for changing the display of the IDEF Explorer.
IDEF Rules Options	Displays a submenu of commands for changing the display of the IDEF Rules Validator (see Set the IDEF Rules Validator Properties).

Diagram Context Menu

The diagram context menu appears when you right-click the diagram outside of any diagram shape. The diagram context menu contains commands for viewing the glossary, adding FE0 diagrams, adding detailed diagrams, viewing FE0 diagrams, and viewing or changing model properties.

Diagram Menu Commands	Description
Add Text Diagram	Adds a text diagram to the current diagram.
Add FE0 diagram	Adds an FE0 diagram to the current diagram.
Diagram Properties	Changes the properties of the current diagram.
Model Properties	Views and changes the model properties.

Shape Context Menu

The shape context menu appears when you right-click an activity in a model. The shape context menu contains commands for cutting, copying, or adding Detailed diagrams, viewing or changing model properties, and editing a glossary.

Shape Context Menu Commands	Description
Cut Detailed Diagram	Deletes the detailed diagram for the currently selected activity.
Copy Detailed Diagram	Copies the detailed diagram for the currently selected activity.
Paste Detailed Diagram	Pastes the detailed diagram from the Clipboard.
Add Detailed Diagram	Adds a detailed diagram to the currently selected activity.
Add Process	Opens the New Component dialog box for adding a new process.
Activity Properties	Changes the properties of the currently selected activity.
Modify Glossary Definition	Modifies the glossary entry for the current activity.
Add to Glossary	Adds a definition for the current activity to the Glossary.
Delete Glossary Entry	Deletes the glossary entry for the current activity.

iGrafx IDEF0 Tools

iGrafx IDEF0 also provides several tools for creating, editing, and verifying your IDEF0 model.

The IDEF0 Model Setup Wizard

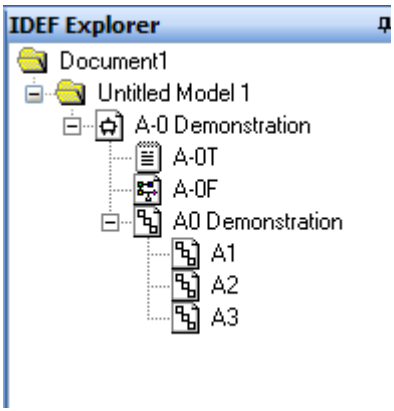
The Model Setup Wizard is a series of dialogs that let you define the following characteristics of a model:

- Model Name
- Model Function
- Model Purpose
- Model Viewpoint
- Template
- Inputs
- Outputs
- Controls
- Mechanism

The Model Setup Wizard starts automatically when you create a new IDEF0 document. The information you enter using the Wizard defines the A-0 diagram for your model.

The IDEF Explorer

The IDEF Explorer is a dialog box that lets you navigate through the components of your model. The Explorer appears automatically when you create a new model. You can turn the Explorer display on or off using the IDEF0 menu.



IDEF Explorer

With the Explorer you can view, add, rename, delete, print, and change the properties of the components of your model. You can also right-click in the Explorer window and click Copy Explorer to place a text object of the current view on the Clipboard.

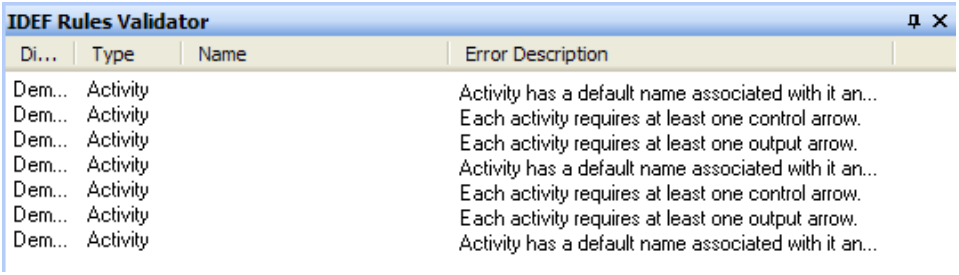
The components of a model appear as labeled icons in the Explorer window.

Explorer Icons	Purpose
	The top-level icon for the model.
	Represents the A-0 diagram.
	Represents an FEO diagram.
	Represents a detailed diagram.
	Represents an activity.
	Represents a table of contents (TOC).
	Represents a node tree diagram.
	Represents a text diagram.
	Represents a glossary.

To view a component such as a diagram or glossary, double-click its icon in the Explorer window. To perform a command on a component, right-click the icon and select a command on the context menu.

The IDEF Rules Validator

The IDEF Rules Validator displays any syntax or semantic rule's violations for the IDEF0 notation in your model. The Rules Validator displays the diagram name, activity, and error description for each error that occurs in a model.


IDEF Rules Validator
Di...
Type
Name
Error Description
Dem... Activity Activity has a default name associated with it an...
Dem... Activity Each activity requires at least one control arrow.
Dem... Activity Each activity requires at least one output arrow.
Dem... Activity Activity has a default name associated with it an...
Dem... Activity Each activity requires at least one control arrow.
Dem... Activity Each activity requires at least one output arrow.
Dem... Activity Activity has a default name associated with it an...

Rules Validator

You can toggle the display of the IDEF Rules Validator using the IDEF0 menu.

The IDEF0 Toolbar

The IDEF0 toolbar contains tools for each command found in the IDEF0 main menu. You can toggle the display of the toolbar using the View menu.

Tools	Purpose
	Toggles the display in the IDEF Explorer window on or off.
	Toggles the display in the IDEF Rules Validator window on or off.
	Opens the **Model Properties** dialog box.
	Refreshes the display of the IDEF Rules Validator window.
	Refreshes the display of all windows.
	Switches the display to the parent activity of the detailed diagram.
	Switches the display to the detailed diagram for the currently selected activity.
	Creates a detailed diagram for the currently selected activity.
	Shows the callout squiggle line. The squiggle callout on a line is the only valid callout in an IDEF diagram. The callout squiggle line attaches the line label to the line.
	Shows a tunnel at the tail of an arrow.
	Shows a tunnel at the head of an arrow.
	Straighten the edge of an arrow.

IDEF0 Model Templates

IDEF0 provides several model templates that for creating a model. A template is an iGrafx FlowCharter/Process document containing an IDEF0 diagram. This diagram contains special graphics objects with text labels that identify what data is displayed in the object. Each label begins with << followed by a text descriptor. For example, the labels <<PrintFrame and <<DrawFrame describe the drawing area of the document.

Labels such as <<Author and <<Model describe replaceable text for the author name and model name.

Field Name	Purpose
<<Used At	Used At
<<Author	Author Name
<<Model	Model Name
<<CreateDate	Creation Date
<<RevDate	Revision Date
<<W	Working Status Date
<<D	Draft Status Box
<<R	Recommended Status Box
<<P	Publication Status Box
<<Reader1	Reader 1 Name
<<Reader2	Reader 2 Name
<<Reader3	Reader 3 Name
<<Date1	Reader 1 Date
<<Date2	Reader 2 Date
<<Date3	Reader 3 Date
<<ContextFrame	Defines the context box location
<<Parent Node	Parent Node Name
<<Node	Current Node Name
<<Activity	Activity Name
<<CNumber	C-Number

Field Name	Purpose
<<Pg	Page Number
<<Purpose	Purpose
<<ViewPoint	Viewpoint

iGrafx IDEF0 ships with a number of templates based on page size. For example, there are templates that generate models in Letter size and A4 size.

Select a template when first creating a model (see Start IDEF0). After creating a model, you can edit the template to customize the look of the diagram (see Work with Model Templates).

You can also create your own templates by editing the template file directly (see Create a Model Template).

Index

A

A-0 diagrams 5
    customize 20
    define 10
Activities
    connect arrows to 13
    draw arrows between 23
    draw arrows to 23
    name 13
Add a glossary 14
Add a text diagram 14
Add child diagrams 11
Add FEO diagrams 13
Add glossary terms 21
Add Node Tree diagrams 14
Add text to a diagram 21
Arrows 4
    connect to activities 13
    delete 24
    draw between activities 23
    draw to activities 23
    tunnel 24
    types 23

C

Change diagram properties 16
Change font properties 21
Change ICOM labels 16
Changing
    model properties 15
Child diagrams 7
    add 11
Create field name objects 20
Create model templates 18
Customize draw frames 19
Customize fields 20
Customize frames 19
Customize print frames 19
Customize template fields 17
Customize template frames 18
Customizie A-0 diagrams 20

D

Define A-0 diagrams 10
Delete arrows 24
Detail Reference Expression 4
Diagram Context menu 30
Diagram properties, change 16
Diagrams
    A-0 5
    add text 21
    Child 7
    For Exposition Only (FEO) 8
    Node Tree 8
    Parent 8
    Text 8
    Top-Level Context 5
    view text 21
Draw Frames, customize 19

E

Expressions 4

F

Field name objects, create 20
Fields
    customize 20
    customize for templates 17

Font properties, change 21
For Exposition Only diagrams (FEO)
about 8
add 13
Frames
customize 19
customize for templates 18

G

Glossary 8
add 14
add terms 21
modify terms using the IDEF Explorer 22
modify terms using the IDEFO menu 22
remove terms using the IDEF Explorer 21
remove terms using the IDEFO menu 21
spell check 22

I

ICOM
change name 16
change properties 16
IDEF Explorer
copy the current view to the clipboard 33
modify glossary terms 22
remove glossary terms 21
IDEF Rules Validator
refresh the window 26
set properties 25
view 26
IDEF0
Explorer 33
Menu 29
modeling language 3
notation 4
toolbar 36
IDEFO menu
modify glossary terms 22
remove glossary terms 21

M

Menus
Diagram Context 30
IDEF0 29
Shape Context 31
Model properties, changing 15
Model Setup Wizard 32
Model Templates 37
create 18
customize 16
customize fields 17
customize frames 18
Model Validation 25
Modeling Language 3
Models
preview 27

N

Name an activity 13
Node Tree diagrams 8
add 14
Notation 4

P

Parent diagrams 8
Preview models 27
Print Frames
customize 19

R

rename ICOM 16
Rules Validator, IDEF 35

S

Shape Context menu 31
Spell check glossary terms 22
Start from a template 9
Start from iGrafx 9
Start from the Welcome dialog 9

T

Templates 9
    create 18
    customize fields 17
    customize frames 18
Text diagram
    add 14
Text diagrams 8
Text, add a diagram 14
Toolbars, IDEFO 36
Top-Level Context diagrams 5
    add 10
Tunnel arrows 24

V

View diagram text 21

W

Welcome dialog 9